

Use Attainability Analysis

for

WBID 0443 Cypress Creek

Submitted by
SES Inc.

to

Missouri Department of Natural Resources
Water Protection Program

Date received: November 14, 2007

Field Data Sheets for Recreation Use Stream Surveys

Data Sheet A - Water Body Identification

I. Water Body Information (For water body being surveyed)

Water Body Name (from USGS 7.5' quad):	Cypress Creek		
Missouri Water Body Identification (WBID) Number:	443		
8 digit HUC code:	10280101	County:	Daviess
Upstream Legal Description (from Table H):	T62N	R27W	Sec. 18
Downstream Legal Description (from Table H):	T60N	R28W	Sec. 8
Number of sites evaluated:	9		
List all site numbers, listed consequently upstream to downstream:	29, 31, 36, 33, 34, 35, 37, 32, 30		

Site Locations Map(s): Attach a map of the entire segment with assessment sites clearly labeled.
Mark any other items that may be of interest.

II. Facility Information (list all permitted discharges to the water body segment)

Facility Name(s) and Permit Number(s):
incorrect facility listed

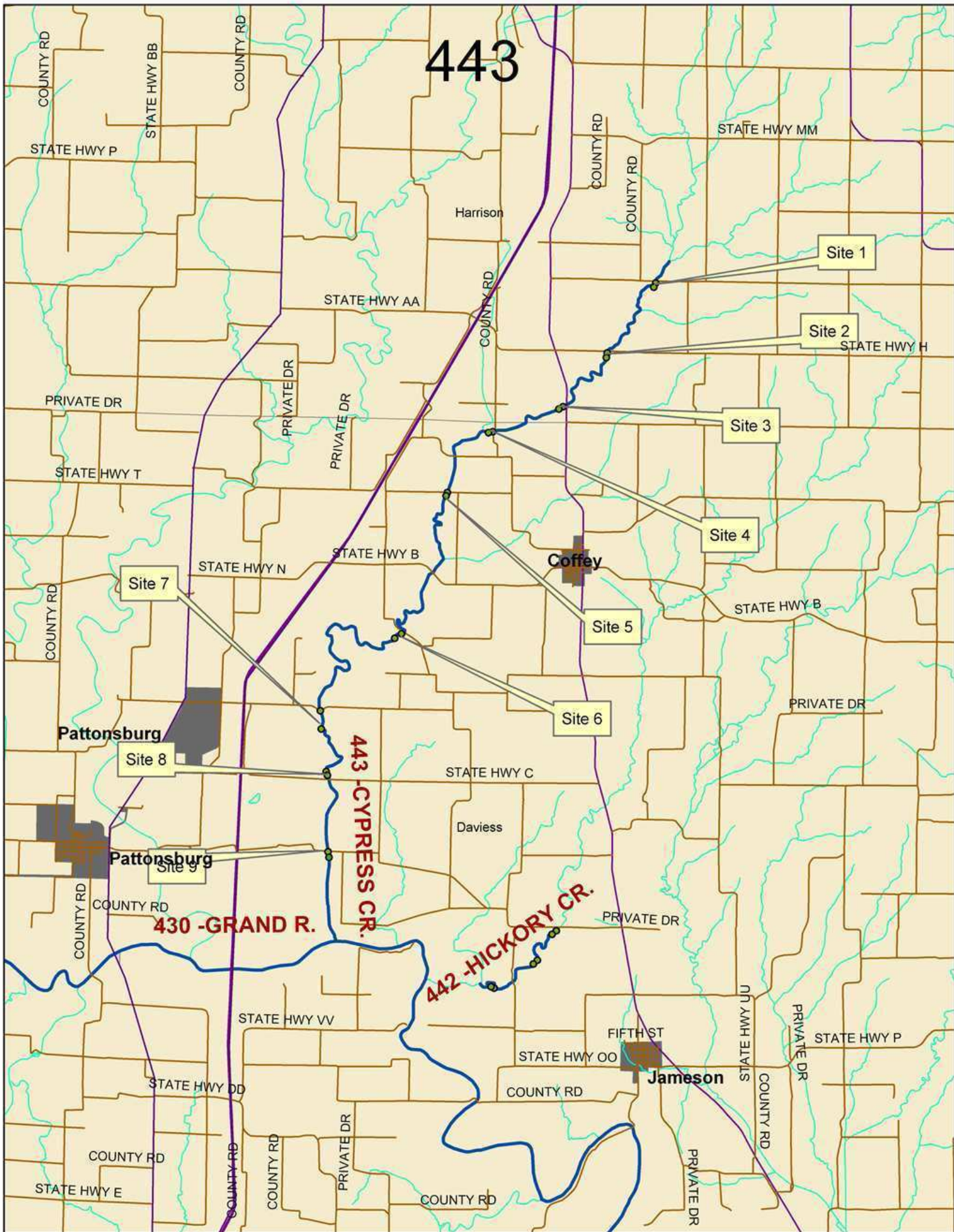
III. UAA Surveyor (please print legibly)

Name of Surveyor:	Gilisa Gould	Telephone Number:	913.307.0054
Organization/Employer:	SES, Inc.		

Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.

Signed: gilisa gould **Date:** 10.03.07

443



WBID # 443
 Site # 1

Field Data Sheets For Recreational Use Stream Surveys

Data Sheet B-Site Characterization

Date & Time: 9.20.07 17:35	Site Location Description (e.g. road crossing):
Personnel: D. Dodson & G. Gould	380th
Current Weather Conditions: clear	Facility Name: ?
Weather conditions for the past 10 days: no precip	Permit Number: ?
Drought conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

Site Location:

Location Coordinates (Universal Transverse Mercator Projection, In Meters)					
Site 01	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:		Meters
	0416030	4446267			4.6
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:		Meters
	0415985	4446173			10.1

Photos:

Photo ID#	Photo Purpose	Photo ID#:	Photo Purpose	Photo ID#:	Photo Purpose
83	upstream	84	downstream		
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

Uses Observed:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe:				

WBID # 443
 Site # 1

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B- Site Characterization (Continued)

Surrounding Conditions:

<input type="checkbox"/> City/County parks	<input type="checkbox"/> playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National Forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkways
<input type="checkbox"/> Boating accesses	<input checked="" type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep Slopes	<input checked="" type="checkbox"/> Other:

Comments:
 crop fields and pasture

Evidence of Human Use:

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot path/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV/ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock watering

comments/other:
 none

Substrate:

% Cobble	% Gravel	% Sand	% Silt	% Mud/Clay	% Bedrock
	10	90			

Aquatic Vegetation:

5% duck weed at two transects; vegetated banks: willow, grasses, etc.

Water Characteristics:

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other:
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

WBID # 443
Site # 1

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization (continued)

Additional Stream Morphology: (Record isolated pools or other features identified during the survey that may support recreational uses)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

Comments: (Please record any additional comments here.)

none

Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.

Surveyor's Signature: gilisa gould Date of Survey: 9.20.07

Organization: SES, Inc. Position: field team leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>443</u> Site #: <u>1</u>														Dissolved Oxygen								
Estimated Channel Incision: <u>3.7</u> (m) (height between low bank width and water)														Date: <u>9.20.07</u> Time: <u>17:35</u>								
GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM)														Dissolved Oxygen: <u>8.1</u> (mg/L)								
01 UTM X: <u>0416030</u> UTM Y: <u>4446267</u> +/- <u>4.6</u> (meters)														Dissolved Oxygen: _____ (% sat)								
11 UTM X: <u>0415985</u> UTM Y: <u>4446173</u> +/- <u>10.1</u> (meters)														Specific Cond: _____ (µS/cm)								
Average Stream Width: <u>2.4</u> (meters) Length of Survey Segment: <u>150</u> (meters)														Water Temperature: <u>23.4</u> (°C)								
(To determine Length of Reach) (20x average stream width)																						
Field Staff: <u>Drew Dodson and Gilisa Gould</u>																						
Transect Cross-Section																						
01		02		03		04		05		06		07		08		09		10		11		
Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1	0.1	0.05	0.6	0.05	0.1	0.01	0.2	0.01	0.2	0.01	0.1	0.01	0.1	0.01	0.2	0.01	0.5	0.01	0.5	0.10	0.3	0.05
2	0.2	0.01	1.1	0.25	0.2	0.05	0.4	0.05	0.4	0.05	0.2	0.01	0.1	0.01	0.4	0.01	0.9	0.10	0.9	0.20	0.5	0.10
3	0.3	0.01	1.7	0.00	0.3	0.05	0.5	0.05	0.5	0.01	0.3	0.05	0.2	0.01	0.5	0.01	1.4	0.15	1.4	0.30	0.8	0.20
4	0.4	0.01	2.2	0.00	0.4	0.05	0.7	0.05	0.7	0.00	0.4	0.01	0.2	0.01	0.7	0.01	1.8	0.15	1.8	0.40	1.1	0.10
5	0.5	0.05	2.8	0.00	0.5	0.05	0.9	0.01	0.9	0.00	0.5	0.01	0.3	0.00	0.9	0.01	2.3	0.15	2.3	0.40	1.4	0.10
6	0.5	0.05	3.3	0.00	0.5	0.01	1.1	0.01	1.1	0.00	0.5	0.01	0.3	0.00	1.1	0.05	2.8	0.20	2.8	0.40	1.6	0.10
7	0.6	0.01	3.9	0.00	0.6	0.01	1.3	0.01	1.3	0.01	0.6	0.01	0.4	0.00	1.3	0.01	3.2	0.20	3.2	0.40	1.9	0.10
8	0.7	0.00	4.4	0.10	0.7	0.01	1.4	0.01	1.4	0.01	0.7	0.01	0.4	0.00	1.4	0.01	3.7	0.20	3.7	0.40	2.2	0.05
9	0.8	0.00	5.0	0.05	0.8	0.01	1.6	0.01	1.6	0.01	0.8	0.01	0.5	0.01	1.6	0.01	4.1	0.05	4.1	0.25	2.4	0.05
Right Bank	0.9	0.00	5.5	0.00	0.9	0.00	1.8	0.00	1.8	0.00	0.9	0.00	0.5	0.00	1.8	0.00	4.6	0.00	4.6	0.00	2.7	0.00
Feature Type	run		run		run		run		run		run		run		run		run		pool		run	
(riffle, run, or pool)																						

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width

GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.

Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)

Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

Signed: gilisa gould Date: 11.12.07

WBID # 443
 Site # 2

Field Data Sheets For Recreational Use Stream Surveys

Data Sheet B-Site Characterization

Date & Time: 9.20.07 16:25	Site Location Description (e.g. road crossing):
Personnel: D. Dodson & G. Gould	Highway H
Current Weather Conditions: clear	Facility Name: incorrect
Weather conditions for the past 10 days: no precip	Permit Number:
Drought conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

Site Location:

Location Coordinates (Universal Transverse Mercator Projection, In Meters)					
Site 01	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:	Meters	
	0414939	4444695		4.9	
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:	Meters	
	0414922	4444586		9.4	

Photos:

Photo ID#	Photo Purpose	Photo ID#:	Photo Purpose	Photo ID#:	Photo Purpose
81	upstream	82	downstream		
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

Uses Observed:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe:				

WBID # 443
 Site # 2

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B- Site Characterization (Continued)

Surrounding Conditions:

<input type="checkbox"/> City/County parks	<input type="checkbox"/> playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National Forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkways
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep Slopes	<input checked="" type="checkbox"/> Other:
Comments: pasture				

Evidence of Human Use:

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot path/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV/ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock watering
comments/other: none				

Substrate:

% Cobble	% Gravel	% Sand	% Silt	% Mud/Clay	% Bedrock
	10	60	25	5	

Aquatic Vegetation:

10% algae blooms

Water Characteristics:

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input checked="" type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other:
					brown
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input checked="" type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input type="checkbox"/> None	<input type="checkbox"/> Other:

WBID # 443
Site # 2

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization (continued)

Additional Stream Morphology: (Record isolated pools or other features identified during the survey that may support recreational uses)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

Comments: (Please record any additional comments here.)

none

Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.

Surveyor's Signature: Gilisa Gould Date of Survey: 9.20.07

Organization: SES, Inc Position: Field Team Leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>443</u> Site #: <u>2</u> Estimated Channel Incision: <u>0.8</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0414939</u> UTM Y: <u>4444695</u> +/- <u>4.9</u> (meters) 11 UTM X: <u>0414922</u> UTM Y: <u>4444586</u> +/- <u>9.4</u> (meters) Average Stream Width: <u>4.5</u> (meters) Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Drew Dodson and Gilisa Gould</u>	Dissolved Oxygen Date: <u>9.20.07</u> Time: <u>16:25</u> Dissolved Oxygen: <u>6.9</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>23</u> (°C)
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Transect Cross-Section

Station	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0.6	0.20	0.6	0.05	0.7	0.05	0.5	0.05	0.5	0.05	0.5	0.05	0.3	0.05	0.2	0.05	0.27	0.05	0.4	0.05	0.6	0.01
2	1.3	0.45	1.1	0.20	1.5	0.10	0.9	0.20	0.9	0.10	0.9	0.10	0.5	0.10	0.4	0.15	0.54	0.01	0.7	0.10	1.1	0.05
3	1.9	0.50	1.7	0.30	2.2	0.10	1.4	0.15	1.4	0.10	1.4	0.10	0.8	0.15	0.5	0.10	0.81	0.05	1.1	0.15	1.7	0.10
4	2.6	0.55	2.2	0.40	2.9	0.10	1.8	0.20	1.8	0.05	1.8	0.10	1.1	0.10	0.7	0.05	1.08	0.10	1.5	0.20	2.2	0.15
5	3.2	0.40	2.8	0.50	3.7	0.10	2.3	0.25	2.3	0.10	2.3	0.10	1.4	0.06	0.9	0.05	1.35	0.10	1.9	0.20	2.8	0.20
6	3.8	0.25	3.3	0.20	4.4	0.15	2.8	0.30	2.8	0.01	2.8	0.10	1.6	0.01	1.1	0.10	1.62	0.10	2.2	0.10	3.3	0.30
7	4.5	0.05	3.9	0.15	5.1	0.20	3.2	0.40	3.2	0.00	3.2	0.15	1.9	0.05	1.3	0.05	1.89	0.10	2.6	0.10	3.9	0.50
8	5.1	0.05	4.4	0.05	5.8	0.20	3.7	0.30	3.7	0.00	3.7	0.10	2.2	0.05	1.4	0.05	2.16	0.05	3.0	0.05	4.4	0.30
9	5.8	0.01	5.0	0.01	6.6	0.05	4.1	0.05	4.1	0.10	4.1	0.05	2.4	0.05	1.6	0.05	2.43	0.05	3.3	0.05	5.0	0.10
Right Bank	6.4	0.00	5.5	0.00	7.3	0.00	4.6	0.00	4.6	0.00	4.6	0.00	2.7	0.00	1.8	0.00	2.7	0.00	3.7	0.00	5.5	0.00
Feature Type (riffle, run, or pool)	pool		pool		run		run		run		run		run		run		run		run		run	

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width

GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.

Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)

Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

0.55 MAXIMUM

0.10 MEDIAN

Signed: gilisa gould Date: 10.18.07

WBID # 443
 Site # 3

Field Data Sheets For Recreational Use Stream Surveys

Data Sheet B-Site Characterization

Date & Time: 9.20.07 18:25	Site Location Description (e.g. road crossing):
Personnel: D. Dodson & G. Gould	Highway 13
Current Weather Conditions: clear	Facility Name: ?
Weather conditions for the past 10 days: no precip.	Permit Number: ?
Drought conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

Site Location:

Location Coordinates (Universal Transverse Mercator Projection, In Meters)					
Site 01	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:	Meters	
	0413947	4443484		2.7	
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:	Meters	
	0413854	4443430		3.7	

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
86	downstream	87	upstream		
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

Uses Observed:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe:				

WBID # 443
 Site # 3

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B- Site Characterization (Continued)

Surrounding Conditions:

<input type="checkbox"/> City/County parks	<input type="checkbox"/> playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National Forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkways
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep Slopes	<input checked="" type="checkbox"/> Other:

Comments:
 crop fields and pasture

Evidence of Human Use:

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot path/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV/ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock watering

comments/other:
 none

Substrate:

% Cobble	% Gravel 20	% Sand 70	% Silt 10	% Mud/Clay	% Bedrock
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Aquatic Vegetation:

90% algae blooms in water; a lot of trees on banks; grasses and mosses on substrate that is in channel but sits above water level

Water Characteristics:

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input checked="" type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other:
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input checked="" type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input type="checkbox"/> None	<input type="checkbox"/> Other:

WBID # 443
Site # 3

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization (continued)

Additional Stream Morphology: (Record isolated pools or other features identified during the survey that may support recreational uses)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

Comments: (Please record any additional comments here.)

none

Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.

Surveyor's Signature: gilisa gould Date of Survey: 9.20.07

Organization: SES, Inc. Position: field team leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>443</u> Site #: <u>3</u> Estimated Channel Incision: <u>0.2</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0413947</u> UTM Y: <u>4443484</u> +/- <u>2.7</u> (meters) 11 UTM X: <u>0413854</u> UTM Y: <u>4443430</u> +/- <u>3.7</u> (meters) Average Stream Width: <u>7</u> (meters) Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Drew Dodson</u> and <u>Gilisa Gould</u>	Dissolved Oxygen Date: <u>9.20.07</u> Time: <u>18:25</u> Dissolved Oxygen: <u>10.2</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>22.7</u> (°C)
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Transect Cross-Section

Station	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0.6	0.05	0.6	0.05	0.7	0.05	1.0	0.05	0.8	0.10	1.0	0.01	0.6	0.01	0.8	0.05	0.7	0.01	0.6	0.01	0.2	0.01
2	1.1	0.10	1.3	0.15	1.5	0.10	2.0	0.25	1.6	0.30	2.0	0.05	1.3	0.01	1.6	0.15	1.5	0.15	1.1	0.01	0.4	0.05
3	1.7	0.20	1.9	0.25	2.2	0.15	3.0	0.55	2.5	0.30	3.0	0.01	1.9	0.05	2.5	0.20	2.2	0.15	1.7	0.01	0.5	0.05
4	2.2	0.25	2.6	0.30	2.9	0.25	4.0	0.80	3.3	0.40	4.0	0.01	2.6	0.01	3.3	0.35	2.9	0.15	2.2	5.00	0.7	0.05
5	2.8	0.25	3.2	0.35	3.7	0.30	5.1	0.65	4.1	0.45	5.1	0.05	3.2	0.00	4.1	0.30	3.7	0.05	2.8	0.01	0.9	0.05
6	3.3	0.25	3.8	0.40	4.4	0.30	6.1	0.35	4.9	0.50	6.1	0.15	3.8	0.00	4.9	0.35	4.4	0.00	3.3	0.05	1.1	0.01
7	3.9	0.15	4.5	0.45	5.1	0.40	7.1	0.30	5.7	0.55	7.1	0.10	4.5	0.00	5.7	0.36	5.1	0.00	3.9	0.01	1.3	0.01
8	4.4	0.10	5.1	0.45	5.8	0.35	8.1	0.33	6.6	0.40	8.1	0.15	5.1	0.05	6.6	0.30	5.8	0.00	4.4	0.05	1.4	0.01
9	5.0	0.05	5.8	0.05	6.6	0.05	9.1	0.30	7.4	0.20	9.1	0.05	5.8	0.10	7.4	0.30	6.6	0.10	5.0	0.05	1.6	0.01
Right Bank	5.5	0.00	6.4	0.00	7.3	0.00	10.1	0.00	8.2	0.00	10.1	0.00	6.4	0.00	8.2	0.00	7.3	0.00	5.5	0.00	1.8	0.00
Feature Type	run		run		run		pool		pool		riffle		riffle		run		run		run		run	

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width

GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.

Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)

Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

5.00 MAXIMUM

0.1 MEDIAN

Signed: gilisa gould Date: 10.18.07

WBID # 443
 Site # 4

Field Data Sheets For Recreational Use Stream Surveys

Data Sheet B-Site Characterization

Date & Time: 9.20.07 19:10	Site Location Description (e.g. road crossing):
Personnel: D. Dodson & G. Gould	E. 210 Ave.
Current Weather Conditions: clear	Facility Name: ?
Weather conditions for the past 10 days: no precip.	Permit Number: ?
Drought conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

Site Location:

Location Coordinates (Universal Transverse Mercator Projection, in Meters)					
Site 01	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:	Meters	
	0412365	4442920		4.0	
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:	Meters	
	0412272	4442900		6.7	

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
88	downstream	89	upstream		
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

Uses Observed:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe:				

WBID # 443
 Site # 4

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B- Site Characterization (Continued)

Surrounding Conditions:

<input type="checkbox"/> City/County parks	<input type="checkbox"/> playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National Forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkways
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep Slopes	<input checked="" type="checkbox"/> Other:

Comments:
 crop land

Evidence of Human Use:

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot path/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV/ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock watering

comments/other:
 none

Substrate:

% Cobble	% Gravel	% Sand 40	% Silt 30	% Mud/Clay 30	% Bedrock
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Aquatic Vegetation:

30% algae blooms at all transects

Water Characteristics:

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input checked="" type="checkbox"/> Gray	<input checked="" type="checkbox"/> Milky	<input type="checkbox"/> Other:
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input checked="" type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input type="checkbox"/> None	<input type="checkbox"/> Other:

WBID # 443
Site # 4

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization (continued)

Additional Stream Morphology: (Record isolated pools or other features identified during the survey that may support recreational uses)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

Comments: (Please record any additional comments here.)

none

Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.

Surveyor's Signature: gilisa gould Date of Survey: 9.20.07

Organization: SES, Inc Position: field team leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>443</u> Site #: <u>4</u> Estimated Channel Incision: <u>0.6</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0412365</u> UTM Y: <u>4442920</u> +/- <u>4</u> (meters) 11 UTM X: <u>0412272</u> UTM Y: <u>4442900</u> +/- <u>6.7</u> (meters) Average Stream Width: <u>4.6</u> (meters) Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Drew Dodson and Gilisa Gould</u>	Dissolved Oxygen Date: <u>9.20.07</u> Time: <u>19:10</u> Dissolved Oxygen: <u>4.2</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>23.8</u> (°C)
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Transect Cross-Section

	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)
Station																						
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0.6	0.05	0.6	0.55	0.8	0.10	0.4	0.01	0.6	0.01	0.6	0.05	0.4	0.20	0.2	0.05	0.2	0.01	0.3	0.05	0.3	0.05
2	1.3	0.20	1.3	0.65	1.6	0.70	0.7	0.05	1.3	0.05	1.3	0.01	0.7	0.25	0.4	0.05	0.4	0.05	0.5	0.10	0.5	0.10
3	1.9	0.20	1.9	0.90	2.5	0.95	1.1	0.05	1.9	0.10	1.9	0.05	1.1	0.30	0.5	0.05	0.5	0.05	0.8	0.10	0.8	0.10
4	2.6	0.35	2.6	0.85	3.3	0.95	1.5	0.05	2.6	0.10	2.6	0.15	1.5	0.30	0.7	0.05	0.7	0.10	1.1	0.05	1.1	0.15
5	3.2	0.50	3.2	0.50	4.1	0.80	1.9	0.05	3.2	0.20	3.2	0.20	1.9	0.30	0.9	0.05	0.9	0.10	1.4	0.01	1.4	0.20
6	3.8	0.40	3.8	0.50	4.9	0.65	2.2	0.05	3.8	0.25	3.8	0.25	2.2	0.25	1.1	0.05	1.1	0.10	1.6	0.01	1.6	0.25
7	4.5	0.40	4.5	0.35	5.7	0.50	2.6	0.05	4.5	0.25	4.5	0.30	2.6	0.15	1.3	0.10	1.3	0.10	1.9	0.01	1.9	0.20
8	5.1	0.30	5.1	0.30	6.6	0.30	3.0	0.05	5.1	0.25	5.1	0.40	3.0	0.05	1.4	0.05	1.4	0.01	2.2	0.01	2.2	0.10
9	5.8	0.20	5.8	0.10	7.4	0.15	3.3	0.05	5.8	0.10	5.8	0.15	3.3	0.01	1.6	0.05	1.6	0.05	2.4	0.01	2.4	0.05
Right Bank	6.4	0.00	6.4	0.00	8.2	0.00	3.7	0.00	6.4	0.00	6.4	0.00	3.7	0.00	1.8	0.00	1.8	0.00	2.7	0.00	2.7	0.00
Feature Type	run		pool		pool		run		run		run		run		run		run		run		run	

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width

GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.

Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)

Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

7.38 MAXIMUM

1.85 MEDIAN

Signed: gilisa gould Date: 10.18.07

WBID # 443
 Site # 5

Field Data Sheets For Recreational Use Stream Surveys

Data Sheet B-Site Characterization

Date & Time: 9.21.07	8:45	Site Location Description (e.g. road crossing):
Personnel: D. Dodson & G. Gould		Beacon
Current Weather Conditions: clear		Facility Name: ?
Weather conditions for the past 10 days: no precip		Permit Number: ?
Drought conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>		

Site Location:

Location Coordinates (Universal Transverse Mercator Projection, In Meters)					
Site 01	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:	Meters	
	0411345	4441556		5.2	
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:	Meters	
	0411320	4441482		5.8	

Photos:

Photo ID#	Photo Purpose	Photo ID#:	Photo Purpose	Photo ID#:	Photo Purpose
90	downstream	91	upstream		
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

Uses Observed:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe:				

WBID # 443
Site # 5

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B- Site Characterization (Continued)

Surrounding Conditions:

<input type="checkbox"/> City/County parks	<input type="checkbox"/> playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National Forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkways
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input checked="" type="checkbox"/> Steep Slopes	<input checked="" type="checkbox"/> Other:
Comments: pasture and crop fields				

Evidence of Human Use:

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot path/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV/ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock watering
comments/other: none				

Substrate:

% Cobble	% Gravel	% Sand 90	% Silt	% Mud/Clay 10	% Bedrock
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Aquatic Vegetation:

80% algae blooms

Water Characteristics:

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input checked="" type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other: orange
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input checked="" type="checkbox"/> Oil	<input checked="" type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input type="checkbox"/> None	<input type="checkbox"/> Other:

WBID # 443
Site # 5

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization (continued)

Additional Stream Morphology: (Record isolated pools or other features identified during the survey that may support recreational uses)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

Comments: (Please record any additional comments here.)

none

Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.

Surveyor's Signature: gilisa gould Date of Survey: 9.21.07

Organization: SES, Inc. Position: field team leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>443</u> Site #: <u>5</u> Estimated Channel Incision: <u>3.0</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0411345</u> UTM Y: <u>4441556</u> +/- <u>5.2</u> (meters) 11 UTM X: <u>0411320</u> UTM Y: <u>4441482</u> +/- <u>5.8</u> (meters) Average Stream Width: <u>4.6</u> (meters) Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Drew Dodson and Gilisa Gould</u>																Dissolved Oxygen						
																Date: <u>9.21.07</u> Time: <u>8:45</u> Dissolved Oxygen: <u>3.7</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>20.4</u> (°C)						
Transect Cross-Section																						
01		02		03		04		05		06		07		08		09		10		11		
Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1	0.6	0.01	0.1	0.00	0.3	0.05	0.1	0.00	0.1	0.01	0.8	0.15	0.3	0.00	0.7	0.01	0.8	0.01	0.7	0.05	0.7	0.05
2	1.1	0.05	0.1	0.00	0.5	0.15	0.1	0.00	0.1	0.01	1.6	0.50	0.5	0.00	1.5	0.45	1.6	0.35	1.5	0.15	1.5	0.20
3	1.7	0.15	0.2	0.00	0.8	0.10	0.2	0.00	0.2	0.01	2.5	0.10	0.8	0.00	2.2	0.60	2.5	0.30	2.2	0.20	2.2	0.30
4	2.2	0.20	0.2	0.00	1.1	0.15	0.2	0.00	0.2	0.01	3.3	0.00	1.1	0.00	2.9	0.60	3.3	0.40	2.9	0.30	2.9	0.40
5	2.8	0.10	0.3	0.00	1.4	0.25	0.3	0.00	0.3	0.01	4.1	0.05	1.4	0.00	3.7	0.60	4.1	0.25	3.7	0.45	3.7	0.50
6	3.3	0.10	0.3	0.00	1.6	0.20	0.3	0.00	0.3	0.01	4.9	0.35	1.6	0.00	4.4	0.50	4.9	0.15	4.4	0.40	4.4	0.50
7	3.9	0.05	0.4	0.00	1.9	0.10	0.4	0.00	0.4	0.01	5.7	0.50	1.9	0.00	5.1	0.21	5.7	0.25	5.1	0.30	5.1	0.30
8	4.4	0.05	0.4	0.00	2.2	0.10	0.4	0.00	0.4	0.01	6.6	0.40	2.2	0.00	5.8	0.10	6.6	0.20	5.8	0.25	5.8	0.10
9	5.0	0.05	0.5	0.00	2.4	0.05	0.5	0.00	0.5	0.05	7.4	0.10	2.4	0.00	6.6	0.10	7.4	0.05	6.6	0.05	6.6	0.05
Right Bank	5.5	0.00	0.5	0.00	2.7	0.00	0.5	0.00	0.5	0.00	8.2	0.00	2.7	0.00	7.3	0.00	8.2	0.00	7.3	0.00	7.3	0.00
Feature Type (riffle, run, or pool)	run	run		run		run		run		pool		run		run		run		run		run		

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width

GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.

Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)

Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

0.60 MAXIMUM

0.05 MEDIAN

Signed: gilisa gould Date: 10.18.07

WBID # 443
 Site # 6

Field Data Sheets For Recreational Use Stream Surveys

Data Sheet B-Site Characterization

Date & Time: 9.21.07	9:50	Site Location Description (e.g. road crossing):
Personnel: D. Dodson & G. Gould		185th
Current Weather Conditions: clear		Facility Name: ?
Weather conditions for the past 10 days: no precip		Permit Number: ?
Drought conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>		

Site Location:

Location Coordinates (Universal Transverse Mercator Projection, In Meters)					
Site 01	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:	Meters	
	0410312	4438376		7.6	
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:	Meters	
	0410160	4438279		6.4	

Photos:

Photo ID#	Photo Purpose	Photo ID#:	Photo Purpose	Photo ID#:	Photo Purpose
92	upstream	93	downstream	94	livestock watering
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
95	livestock watering				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

Uses Observed:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe:				

WBID # 443
 Site # 6

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B- Site Characterization (Continued)

Surrounding Conditions:

<input type="checkbox"/> City/County parks	<input type="checkbox"/> playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input checked="" type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National Forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkways
<input type="checkbox"/> Boating accesses	<input checked="" type="checkbox"/> Fence	<input checked="" type="checkbox"/> No trespass sign	<input checked="" type="checkbox"/> Steep Slopes	<input checked="" type="checkbox"/> Other:

Comments:
 fence crosses stream
 crop fields
 pasture

Evidence of Human Use:

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot path/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV/ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input checked="" type="checkbox"/> Livestock watering

comments/other:
 none

Substrate:

% Cobble	% Gravel	% Sand 70	% Silt	% Mud/Clay 10	% Bedrock 20
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Aquatic Vegetation:

70% vegetated on banks; no vegetation in water

Water Characteristics:

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input checked="" type="checkbox"/> Gray	<input checked="" type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other: brown
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input checked="" type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input type="checkbox"/> None	<input type="checkbox"/> Other:

WBID # 443
Site # 6

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization (continued)

Additional Stream Morphology: (Record isolated pools or other features identified during the survey that may support recreational uses)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

Comments: (Please record any additional comments here.)

none

Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.

Surveyor's Signature: gilisa gould Date of Survey: 9.21.07

Organization: SES, Inc Position: field team leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>443</u> Site #: <u>6</u> Estimated Channel Incision: <u>3.0</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0410312</u> UTM Y: <u>4438376</u> +/- <u>7.6</u> (meters) 11 UTM X: <u>0410160</u> UTM Y: <u>4438279</u> +/- <u>6.4</u> (meters) Average Stream Width: <u>12.6</u> (meters) Length of Survey Segment: <u>253</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Drew Dodson</u> and <u>Gilisa Gould</u>	Dissolved Oxygen Date: <u>9.21.07</u> Time: <u>9:50</u> Dissolved Oxygen: <u>6</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>20.6</u> (°C)
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Transect Cross-Section

Station	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	1.3	0.25	1.2	0.15	1.4	0.30	1.4	0.10	1.5	0.10	1.4	0.15	1.2	0.05	1.4	0.05	1.2	0.05	0.7	0.01	1.4	0.05
2	2.6	0.50	2.4	0.50	2.7	0.70	2.7	0.30	2.9	0.60	2.7	0.45	2.4	0.15	2.7	0.20	2.4	0.40	1.5	0.10	2.7	0.05
3	3.8	0.45	3.6	0.40	4.1	0.80	4.1	0.35	4.4	0.55	4.1	0.50	3.6	0.00	4.1	0.40	3.6	0.55	2.2	0.20	4.1	0.05
4	5.1	0.45	4.8	0.35	5.5	0.85	5.5	0.40	5.8	0.40	5.5	0.50	4.8	0.00	5.5	0.85	4.8	0.55	2.9	0.30	5.5	0.15
5	6.4	0.40	6.0	0.40	6.9	0.85	6.9	0.45	7.3	0.30	6.9	0.40	6.0	0.05	6.9	1.00	6.0	0.55	3.7	0.20	6.9	0.20
6	7.7	0.40	7.1	0.45	8.2	0.85	8.2	0.65	8.8	0.50	8.2	0.20	7.1	0.00	8.2	1.00	7.1	0.70	4.4	0.20	8.2	0.20
7	9.0	0.40	8.3	0.45	9.6	0.85	9.6	0.85	10.2	0.50	9.6	0.00	8.3	0.00	9.6	1.00	8.3	0.60	5.1	0.25	9.6	0.20
8	10.2	0.50	9.5	0.45	11.0	0.45	11.0	0.90	11.7	0.60	11.0	0.10	9.5	0.00	11.0	1.00	9.5	0.40	5.8	0.10	11.0	0.20
9	11.5	0.35	10.7	0.35	12.3	0.05	12.3	0.30	13.1	0.10	12.3	0.05	10.7	0.01	12.3	1.00	10.7	0.40	6.6	0.01	12.3	0.10
Right Bank	12.8	0.00	11.9	0.00	13.7	0.00	13.7	0.00	14.6	0.00	13.7	0.00	11.9	0.00	13.7	0.00	11.9	0.00	7.3	0.00	13.7	0.00
Feature Type (riffle, run, or pool)	run		run		run		run		run		run		riffle		pool		run		run		run	

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width

GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.

Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)

Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

1.00 MAXIMUM

0.40 MEDIAN

Signed: gilisa gould Date: 10.18.07

WBID # 443
 Site # 7

Field Data Sheets For Recreational Use Stream Surveys

Data Sheet B-Site Characterization

Date & Time: 9.21.07 10:55	Site Location Description (e.g. road crossing):
Personnel: D. Dodson & G. Gould	Elmwood
Current Weather Conditions: sunny	Facility Name: ?
Weather conditions for the past 10 days: no precip	Permit Number: ?
Drought conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

Site Location:

Location Coordinates (Universal Transverse Mercator Projection, In Meters)					
Site 01	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:	Meters	
	0408490	4436648		3.4	
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:	Meters	
	0408508	4436236		5.5	

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
97	upstream	96	downstream		
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

Uses Observed:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe:				

WBID # 443
Site # 7

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B- Site Characterization (Continued)

Surrounding Conditions:

<input type="checkbox"/> City/County parks	<input type="checkbox"/> playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National Forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkways
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep Slopes	<input checked="" type="checkbox"/> Other:
Comments: crop fields				

Evidence of Human Use:

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot path/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV/ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock watering
comments/other: none				

Substrate:

% Cobble	% Gravel	% Sand	% Silt	% Mud/Clay	% Bedrock
	5	45			50

Aquatic Vegetation:

1% algae; 7% spike rush; 10% grasses

Water Characteristics:

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other:
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

WBID # 443
Site # 7

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization (continued)

Additional Stream Morphology: (Record isolated pools or other features identified during the survey that may support recreational uses)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)
pool	300	22	91	> 1.0	> 1.0
pool	470	18	26	> 1.0	> 1.0

Comments: (Please record any additional comments here.)

none

Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.

Surveyor's Signature: gilisa gould Date of Survey: 9.21.07

Organization: SES, Inc Position: field team leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>443</u> Site #: <u>7</u> Estimated Channel Incision: <u>2.0</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0408490</u> UTM Y: <u>4436648</u> +/- <u>3.4</u> (meters) 11 UTM X: <u>0408508</u> UTM Y: <u>4436236</u> +/- <u>5.5</u> (meters) Average Stream Width: <u>14.1</u> (meters) Length of Survey Segment: <u>282</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Drew Dodson</u> and <u>Gilisa Gould</u>																Dissolved Oxygen						
																Date: <u>9.21.07</u> Time: <u>11:00</u> Dissolved Oxygen: <u>2</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>23.7</u> (°C)						
Transect Cross-Section																						
01		02		03		04		05		06		07		08		09		10		11		
Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1	2.0	0.00	1.7	0.00	1.4	0.10	2.0	0.00	2.6	0.00	1.7	1.00	1.0	0.05	0.6	0.10	0.6	0.15	0.9	0.05	1.2	0.05
2	4.0	0.00	3.3	0.00	2.7	0.10	4.0	0.00	5.1	0.00	3.3	1.00	2.0	0.05	1.1	0.10	1.3	0.05	1.8	0.30	2.4	0.30
3	6.0	0.00	5.0	0.00	4.1	0.10	6.0	0.01	7.7	0.00	5.0	1.00	3.0	0.15	1.7	0.10	1.9	0.05	2.7	0.40	3.6	0.65
4	8.0	0.01	6.6	0.00	5.5	0.10	8.0	0.10	10.2	0.10	6.6	1.00	4.0	0.25	2.2	0.10	2.6	0.10	3.6	0.50	4.8	>1
5	10.0	0.10	8.3	0.00	6.9	0.10	10.0	0.10	12.8	0.00	8.3	1.00	5.1	0.25	2.8	0.10	3.2	0.25	4.6	0.60	6.0	>1
6	12.0	0.00	9.9	0.00	8.2	0.01	12.0	0.00	15.3	0.00	9.9	1.00	6.1	0.30	3.3	0.10	3.8	0.50	5.5	0.70	7.1	0.70
7	14.0	0.00	11.6	0.00	9.6	0.00	14.0	0.25	17.9	0.00	11.6	1.00	7.1	0.50	3.9	0.10	4.5	0.40	6.4	0.60	8.3	0.60
8	16.0	0.05	13.2	0.00	11.0	0.00	16.0	0.00	20.4	0.00	13.2	0.85	8.1	0.10	4.4	0.20	5.1	0.30	7.3	0.20	9.5	0.40
9	18.0	0.00	14.9	0.00	12.3	0.00	18.0	0.00	23.0	0.00	14.9	0.20	9.1	0.25	5.0	0.15	5.8	0.10	8.2	0.01	10.7	0.20
Right Bank	20.0	0.00	16.5	0.00	13.7	0.00	20.0	0.00	25.5	0.00	16.5	0.00	10.1	0.00	5.5	0.00	6.4	0.00	9.1	0.00	11.9	0.00
Feature Type	run		run		run		run		run		pool		run		run		run		run		run	

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width

GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.

Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)

Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

1.00 MAXIMUM

0.1 MEDIAN

Signed: gilisa gould Date: 10.18.07

WBID # 443
 Site # 8

Field Data Sheets For Recreation Use Stream Surveys

Data Sheet B-Site Characterization

Date & Time: 9.21.07 12:13	Site Location Description (e.g. road crossing):
Personnel: D. Dodson & G. Gould	Highway C
Current Weather Conditions: clear	Facility Name: ?
Weather conditions for the past 10 days: no precip	Permit Number: ?
Drought conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

Site Location:

Location Coordinates (Universal Transverse Mercator Projection, In Meters)					
Site 01	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:	Meters	
	0408620	4435283		7.9	
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:	Meters	
	0408644	4435197		5.8	

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
98	downstream	99	upstream	100	showing bank
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

Uses Observed:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe:				

WBID # 443
Site # 8

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B- Site Characterization (Continued)

Surrounding Conditions:

<input type="checkbox"/> City/County parks	<input type="checkbox"/> playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National Forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkways
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep Slopes	<input checked="" type="checkbox"/> Other:

Comments:

quarry; crop fields

Evidence of Human Use:

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot path/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV/ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock watering

comments/other:

none

Substrate:

% Cobble	% Gravel	% Sand	% Silt	% Mud/Clay	% Bedrock
	20	80			

Aquatic Vegetation:

only on banks that are not too steep

Water Characteristics:

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other:
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

WBID # 443
Site # 8

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization (continued)

Additional Stream Morphology: (Record isolated pools or other features identified during the survey that may support recreational uses)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

Comments: (Please record any additional comments here.)

none

Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.

Surveyor's Signature: gilisa gould Date of Survey: 9.21.07

Organization: SES, Inc Position: field team leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>443</u> Site #: <u>8</u>														Dissolved Oxygen								
Estimated Channel Incision: <u>3.0</u> (m) (height between low bank width and water)														Date: <u>9.21.07</u> Time: <u>12:13</u>								
GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM)														Dissolved Oxygen: <u>5.3</u> (mg/L)								
01 UTM X: <u>0408620</u> UTM Y: <u>4435283</u> +/- <u>7.9</u> (meters)														Dissolved Oxygen: _____ (% sat)								
11 UTM X: <u>0408644</u> UTM Y: <u>4435197</u> +/- <u>5.8</u> (meters)														Specific Cond: _____ (µS/cm)								
Average Stream Width: <u>2.1</u> (meters) Length of Survey Segment: <u>150</u> (meters)														Water Temperature: <u>20.1</u> (°C)								
(To determine Length of Reach) (20x average stream width)																						
Field Staff: <u>Drew Dodson and Gilisa Gould</u>																						
Transect Cross-Section																						
01		02		03		04		05		06		07		08		09		10		11		
Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1	0.1	0.00	0.1	0.01	0.1	0.05	0.1	0.01	0.1	0.01	0.7	0.00	0.1	0.01	0.2	0.01	0.2	0.01	0.5	0.01	0.4	0.01
2	0.1	0.00	0.1	0.05	0.2	0.05	0.2	0.05	0.1	0.01	1.5	0.01	0.2	0.01	0.4	0.05	0.4	0.01	0.9	0.01	0.7	0.05
3	0.2	0.00	0.2	0.05	0.3	0.01	0.3	0.05	0.2	0.01	2.2	0.00	0.3	0.01	0.5	0.05	0.5	0.01	1.4	0.00	1.1	0.01
4	0.2	0.00	0.2	0.01	0.4	0.01	0.4	0.01	0.2	0.05	2.9	0.00	0.4	0.01	0.7	0.05	0.7	0.05	1.8	0.01	1.5	0.01
5	0.3	0.00	0.3	0.01	0.5	0.05	0.5	0.00	0.3	0.01	3.7	0.00	0.5	0.01	0.9	0.05	0.9	0.05	2.3	0.01	1.9	0.00
6	0.3	0.01	0.3	0.00	0.5	0.10	0.5	0.00	0.3	0.01	4.4	0.00	0.5	0.01	1.1	0.05	1.1	0.01	2.8	0.00	2.2	0.00
7	0.4	0.01	0.4	0.00	0.6	0.10	0.6	0.01	0.4	0.01	5.1	0.00	0.6	0.01	1.3	0.05	1.3	0.01	3.2	0.00	2.6	0.00
8	0.4	0.01	0.4	0.00	0.7	0.05	0.7	0.05	0.4	0.01	5.8	0.05	0.7	0.01	1.4	0.05	1.4	0.05	3.7	0.00	3.0	0.00
9	0.5	0.00	0.5	0.00	0.8	0.05	0.8	0.10	0.5	0.01	6.6	0.05	0.8	0.01	1.6	0.01	1.6	0.01	4.1	0.05	3.3	0.05
Right Bank	0.5	0.00	0.5	0.00	0.9	0.00	0.9	0.00	0.5	0.00	7.3	0.00	0.9	0.00	1.8	0.00	1.8	0.00	4.6	0.00	3.7	0.00
Feature Type	run		run		run		run		run		run		run		run		run		run		run	
(riffle, run, or pool)																						

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width

GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.

Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)

Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

0.10 MAXIMUM

0.01 MEDIAN

Signed: gilisa gould Date: 10.18.07

WBID # 443
 Site # 9

Field Data Sheets For Recreational Use Stream Surveys

Data Sheet B-Site Characterization

Date & Time: 9.21.07 12:45	Site Location Description (e.g. road crossing):
Personnel: D. Dodson & G. Gould	Granite Road
Current Weather Conditions: clear	Facility Name: ?
Weather conditions for the past 10 days: no precip	Permit Number: ?
Drought conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

Site Location:

Location Coordinates (Universal Transverse Mercator Projection, In Meters)					
Site 01	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:	Meters	
	0408663	4433476		5.2	
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:	Meters	
	0408665	4433351		4.6	

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
101	downstream	102	upstream		
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

Uses Observed:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe:				

WBID # 443
 Site # 9

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B- Site Characterization (Continued)

Surrounding Conditions:

<input type="checkbox"/> City/County parks	<input type="checkbox"/> playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National Forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkways
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input checked="" type="checkbox"/> Steep Slopes	<input type="checkbox"/> Other:
Comments: none				

Evidence of Human Use:

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot path/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV/ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock watering
comments/other: none				

Substrate:

% Cobble	% Gravel	% Sand	% Silt	% Mud/Clay	% Bedrock
	10	60		30	

Aquatic Vegetation:

no vegetation in water, only on banks

Water Characteristics:

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other:
brown, not clear, silty					
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

WBID # 443
Site # 9

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization (continued)

Additional Stream Morphology: (Record isolated pools or other features identified during the survey that may support recreational uses)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

Comments: (Please record any additional comments here.)

none

Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.

Surveyor's Signature: gilisa gould Date of Survey: 9.21.07

Organization: SES, Inc. Position: field team leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>443</u> Site #: <u>9</u> Estimated Channel Incision: <u>6.0</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0408663</u> UTM Y: <u>4433476</u> +/- <u>5.2</u> (meters) 11 UTM X: <u>0408665</u> UTM Y: <u>4433351</u> +/- <u>4.6</u> (meters) Average Stream Width: <u>4.2</u> (meters) Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Drew Dodson and Gilisa Gould</u>	Dissolved Oxygen Date: <u>9.21.07</u> Time: <u>12:45</u> Dissolved Oxygen: <u>0.9</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>22.9</u> (°C)
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Transect Cross-Section

Station	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0.7	0.10	0.7	0.10	0.5	0.05	0.4	0.05	0.3	0.05	0.1	0.01	0.1	0.05	0.8	0.10	0.4	0.05	0.6	0.05	0.2	0.05
2	1.5	0.25	1.5	0.20	0.9	0.25	0.7	0.15	0.5	0.10	0.2	0.01	0.2	0.10	1.6	0.10	0.7	0.01	1.1	0.35	0.4	0.10
3	2.2	0.15	2.2	0.30	1.4	0.35	1.1	0.25	0.8	0.25	0.3	0.01	0.3	0.10	2.5	0.05	1.1	0.05	1.7	0.01	0.5	0.15
4	2.9	0.25	2.9	0.15	1.8	0.25	1.5	0.30	1.1	0.30	0.4	0.01	0.4	0.05	3.3	0.00	1.5	0.05	2.2	0.00	0.7	0.25
5	3.7	0.20	3.7	0.20	2.3	0.20	1.9	0.25	1.4	0.30	0.5	0.00	0.5	0.05	4.1	0.00	1.9	0.05	2.8	0.00	0.9	0.30
6	4.4	0.20	4.4	0.20	2.8	0.20	2.2	0.20	1.6	0.35	0.5	0.00	0.5	0.05	4.9	0.00	2.2	0.05	3.3	0.00	1.1	0.20
7	5.1	0.25	5.1	0.35	3.2	0.15	2.6	0.15	1.9	0.30	0.6	0.01	0.6	0.01	5.7	0.00	2.6	0.05	3.9	0.00	1.3	0.20
8	5.8	0.25	5.8	0.35	3.7	0.15	3.0	0.05	2.2	0.30	0.7	0.01	0.7	0.01	6.6	0.20	3.0	0.01	4.4	0.00	1.4	0.10
9	6.6	0.05	6.6	0.05	4.1	0.05	3.3	0.01	2.4	0.10	0.8	0.01	0.8	0.01	7.4	0.10	3.3	0.01	5.0	0.05	1.6	0.05
Right Bank	7.3	0.00	7.3	0.00	4.6	0.06	3.7	0.00	2.7	0.00	0.9	0.00	0.9	0.00	8.2	0.00	3.7	0.00	5.5	0.00	1.8	0.00
Feature Type	pool		pool		run		run		run		run		run		riffle		riffle		run		run	

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width

GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.

Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)

Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

0.35 MAXIMUM

0.05 MEDIAN

Signed: gilisa gould Date: 10.18.07

WBID# 0443



Site# 1 Photo ID# 83, Upstream



Site# 1 Photo ID# 84, Downstream



Site# 2 Photo ID# 81, Upstream



Site# 2 Photo ID# 82, Downstream

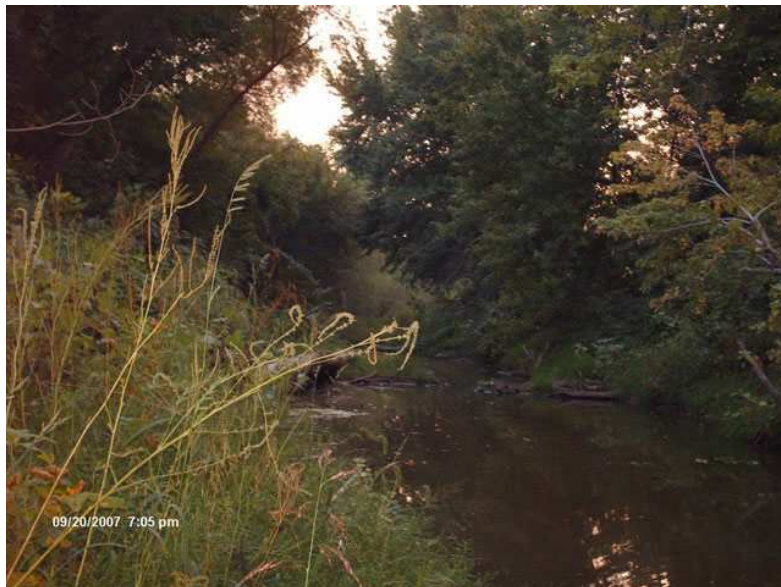
WBID# 0443



Site# 3 Photo ID# 86, Downstream



Site# 3 Photo ID# 87, Upstream



Site# 4 Photo ID# 88, Downstream



Site# 4 Photo ID# 89, Upstream

WBID# 0443



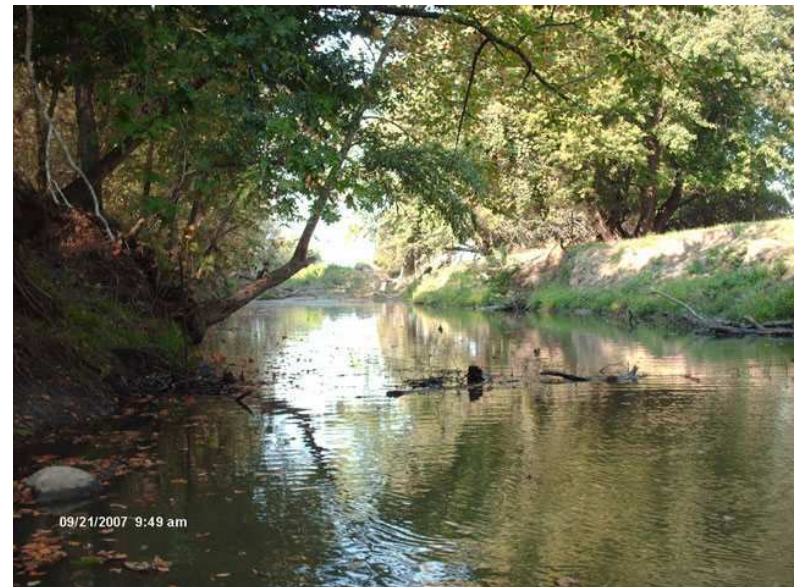
Site# 5 Photo ID# 90, Downstream



Site# 5 Photo ID# 91, Upstream



Site# 6 Photo ID# 92, Upstream



Site# 6 Photo ID# 93, Downstream

WBID# 0443



Site# 6 Photo ID# 94, Livestock watering



Site# 6 Photo ID# 95, Livestock watering



Site# 7 Photo ID# 97, Upstream



Site# 7 Photo ID# 96, Downstream

WBID# 0443



Site# 8 Photo ID# 98, Downstream



Site# 8 Photo ID# 99, Upstream

No Photo

Site# 8 Photo ID# 100, Showing bank



Site# 9 Photo ID# 101, Downstream

WBID# 0443



Site# 9 Photo ID# 102, Upstream